WHAT IS CLAIMED IS:

1. A method of adding one or more telomeric repeats to exogenous DNA wherein the method comprises introducing the exogenous DNA into a *Pestalotiopsis* cell.

2. A method of generating extrachromosomal DNA wherein the method comprises introducing exogenous DNA into a *Pestalotiopsis* cell.

3. A method of generating a replicable nucleic acid element wherein the method comprises introducing exogenous DNA into a *Pestalotiopsis* cell.

4. A method of transformation wherein the method comprises:

a) introducing exogenous DNA into a *Pestalotiopsis* cell;

b) permitting one or more telomeric repeats to be added to the exogenous DNA to produce extrachromosomal DNA;

c) extracting the extrachromosomal DNA from the transformed *Pestalotiopsis* cell; and

d) introducing the extracted extrachromosomal DNA into a second cell.

5. The method of claim 1, 2, 3 or 4 wherein the exogenous DNA has at least 80% sequence similarity to *Pestalotiopsis* DNA.

6. The method of claim 1, 2, 3 or 4 wherein the exogenous DNA is not *Pestalotiopsis* DNA.

7. The method of claim 1, 2, 3 or 4 wherein the exogenous DNA codes for hygromycin resistance.

8. The method of claim 1, 2, 3 or 4 wherein the exogenous DNA is selected from the group consisting of telomeric or non-telomeric DNA.

9. The method of claim 1, 2, 3 or 4 wherein the exogenous DNA is selected from the group consisting of circular, linear or mulitmeric DNA.

10. The method of claim 1, 2 or 3 wherein the method further comprises selecting the cell transformed by the introduction of exogenous DNA.

11. The method of claim 4 wherein the second cell is a eukaryotic cell other than a *Pestalotiopsis* cell.

12. The method of claim 4 wherein the second cell is a *Pestalotiopsis* cell.

13. A *Pestalotiopsis* cell with extrachromosomal DNA wherein the extrachromosomal DNA is exogenous DNA with one or more terminal telomeric repeats added *in vivo*.

14. An isolated nucleic acid molecule coding for a *Pestalotiopsis* telomerase enzyme subunit wherein the isolated nucleic acid molecule comprises either RNA or DNA coding for the telomerase enzyme subunit.

15. A cell comprising the isolated nucleic acid molecule of claim 14.

16. A method of producing stable DNA fragments wherein the method comprises adding one or more telomeric repeats to the ends of the DNA using telomerase or a telomerase subunit isolated from *Pestalotiopsis*.

17. A method for producing the RNA component of *Pestalotiopsis* telomerase comprising the step of culturing a prokaryotic or a eukaryotic cell transformed with a recombinant nucleic acid molecule comprising a promoter positioned to drive the transcription of a DNA encoding a RNA component of *Pestalotiopsis* telomerase.

18. A method of adding one or more telomeric repeats to exogenous DNA

wherein the method comprises introducing the exogenous DNA into a cell of a deuteromycete, with the proviso that the deuteromycete is not *Fusarium oxysporum*.

19. The method of claim 1 or 4 wherein the telomeric repeats comprise the sequence G_3T_2A or any other sequence which functions as a telomeric repeat.